REMARKS

Claims 4-15 and 17-32 are pending in the present application, of which claims 29, 30, 31, and 32 are independent claims. Claims 4, 5, 11, 12-14, 17, 18, 23, 25, 26, and 29-32 have been amended for clarification. No new matter has been added by these amendments. Entry of the amendments made herein and consideration of these remarks is respectfully requested.

Applicant notes herein that specific references made to the present application refer to US Pat. Pub. 2005/0114282.

As will be discussed in detail below, Applicant has amended independent claims 29-32 to clearly emphasize augmentations to problem analysis tools that did not exist in the Applicant's Tech Optimizer product, or other problem analysis tools, at the time the present application was filed. Nor are these augmentations taught or implied in Pustejovsky1 or Pustejovsky2. These augmentations include (1) a query formatter that generates a query from a machine representation of a problem to be solved, and (2) a knowledge search tool that searches databases of solutions and returns possible solutions specific to the query. (e.g., see *Present Application*, para. 0019 and 0017, respectively) These two augmentations are present in each of the independent claims, and not made obvious by the references.

"Electronic Model of a System or Process"

In the Office Action (on page 8), with respect to claims 29, 32, the term "system model" was indicated as being interpreted as "a problem," because it was said that there was no explicit definition in the specification for "system model." Applicant has amended claims 29 and 32, as well as claims 30 and 31 and various dependent claims, to change "system model" to "electronic model of a system or process." As defined in the specification, an electronic model can be a computer model of a system or process. For example, paragraph 0002 of the present application describes *problem analysis tools* as "computer based technologies" used in the "creation or improvement of a device, process

or other system." Paragraph 0004 discusses using problem analysis tools to electronically build models (e.g., a functional model of a soap dispenser). And paragraphs 0007, 0014, 0017, and 0019 make clear that the present invention uses "computer based systems" with augmented problem analysis tools (i.e., computer based technologies for creating and improving devices, processes, and other systems as indicated in paragraph 0002). Electronic models of a system or process are also shown in the screen displays of FIGS. 3, 4, 7, 8, 9, and 10. Therefore, Applicant believes that the use of "electronic model of a system or process" in the claims is well supported by the specification, as referenced above, as shown in the figures and as otherwise discussed, implied or inherent in the specification. Therefore, Applicant trusts that the Examiner will agree that use of "electronic model of a system or process" in place of "system model" in the claims has specificity in terms of its literal meaning, its explicit and implicit support in the specification, and as would be understood by those skilled in the art of computer based problem analysis tools and systems.

101 Rejections - Preemption

Claims 4-15 and 17-32 have been rejected under 35 USC 101 because, according to the Office Action (OA), "Preemption exists since the claims can read on any type of problem and any problem can be reformatted into a natural language format." (*OA*, p. 3)

Citing *Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972), the OA states:

> ... one may not patent <u>every "substantial practical application</u>" of an idea, law of nature or natural phenomena because such a patent "in practical effect would be a patent on the [idea, law of nature or natural phenomena] itself.
> <u>emphasis added</u>

The Applicant is not seeking to patent <u>every substantial practical application</u> of problem analysis with solution suggestion.

In *Benson* the "idea" was a formula for converting BCD numerals to pure binary numerals. And the full excerpt from the portion of *Benson* cited in the Office Action is as follows:

> The mathematical formula involved here has no substantial practical application except in connection with a digital computer, which means that, if the judgment below is affirmed, the patent would wholly preempt the mathematical formula and, in practical effect, would be a patent of the algorithm itself."
>
> *Benson*, 409 U.S. at 71-72 (emphasis added)

Ultimately, even a claim containing a mathematical formula may be patentable, as long is it is not the mathematical formula itself that is sought to be patented, as stated in *Diehr*:

> We recognize, of course, that, when a claim recites a mathematical formula (or scientific principle or phenomenon of nature), an inquiry must be made into whether the claim is seeking patent protection for that formula in the abstract.
>
> *Diehr*, 450 U.S. at 191

The Applicant is not seeking to patent a mathematical formula, scientific principle, or phenomenon of nature.

This required inquiry creates a heavy burden on the Examiner to justify a rejection under 35 USC 101 based on preemption, as clearly indicated in the MPEP:

> If USPTO personnel determine that the claimed invention preempts a 35 U.S.C. 101 judicial exception, they must identify the abstraction, law of nature, or natural phenomenon and explain why the claim covers every substantial practical application thereof.
>
> MPEP 2106 IV.C.3 (emphasis added)

Like the Supreme Court, the Examiner should:

> ... not be unmindful of the Committee Reports accompanying the 1952 Act which inform us that Congress intended statutory subject matter to "include anything under the sun that is made by man." S.Rep. No.1979, 82d Cong., 2d Sess., 5 (1952); H.R.Rep. No.1923, 82d Cong., 2d Sess., 6 (1952).
>
> *Diehr*, 450 U.S. at 191

In the present case, the test has not been completely satisfied because the Offices Action does not (1) <u>identify</u> the abstraction, law of nature, or natural phenomenon; or (2) <u>explain</u> why the claim covers every substantial practical application thereof. The OA stated that "the claims can read on any type of problem and any problem can be reformulated into a natural language format." But in this statement there is no identification of an abstraction (mathematical formula), law of nature or natural phenomenon for any claim. It follows that since there has not been an identification of an abstraction (mathematical formula), law of nature or natural phenomenon for any claim, there also has been no explanation of why the claim covers every substantial practical application thereof. Thus, the burden of establishing a prima facia case of preemption under 35 USC 101 has not been satisfied. Accordingly, beyond what has been provided herein, the Applicant cannot form a proper response based on the information provided in the Office Action.

Nevertheless, claim 29, as an example, has been amended for clarification and without prejudice. Applicant believes that it cannot be said that amended claim 29 claims an abstraction, law of nature or natural phenomenon - or that claim 29 preempts the use of any of the foregoing as a general matter. Amended claim 29 reads:

> 29. A computer-based method of obtaining solution suggestions for problems, using an electronic model of a system or process, wherein the electronic model includes components of the system or process and relationships between the components, said method comprising the following computer executed steps:
> analyzing the components and the relationships between the components of the electronic model, including identifying a problem to be solved;
> generating a machine representation of the problem;
> reformulating the machine representation into a natural language or Boolean query;
> automatically submitting the query to at least one knowledge base having solutions stored therein; and
> returning a set of solution suggestions responsive to the query from the at least one knowledge base.

In the above claim, the Applicant is not attempting to patent an abstraction, law of nature or natural phenomenon itself. In fact, the claim does not even include an

abstraction (mathematical formula), law of nature or natural phenomenon – let alone an attempt to patent one. The claim explicitly relates only to electronic models of systems or processes. The claim is also explicit that the electronic model must include "components of the system or process and relationships between the components." Others are not preempted from problem analysis outside of a computer or problem analysis that does not include such electronic models. Identifying a problem to be solved using computer analysis of the components and relationships of the electronic model is also explicitly required. Therefore, the computer must also identify the problem and must do so from the electronic model – Applicant contends that the foregoing, particularly problem identification from an electronic model of a system or process, is not at all abstract. That is, computer identification of a problem from computer analysis of an electronic model of a system or process is not abstract. The other explicit requirements of claim 29 are similarly tangible, and not abstract, such as the computer generating a machine (i.e., computer) representation of the problem; reformulating the machine representation into a natural language or Boolean query; automatically submitting the query to at least one knowledge base having stored solutions, and returning a set of solution suggestions responsive to the query. Claim 29 defines a tangible computer-based method comprising "computer executed steps" that are not abstract. The notion of a "problem" is grounded in a specific electronic representation of a system or process having components and relationships. Claim 29 does not, in fact, preclude others from practicing an abstract idea (mathematical formula), law of nature or natural phenomenon – which is really the thrust of a preemption rejection under 35 USC 101.

Claims 17-28 depend from claim 29, so also constitute patentable subject matter under 35 USC 101.

Independent claim 31 includes limitations similar to those discussed above with respect to claim 29. Therefore, like claim 29, claim 31 and its dependent claims 4-15 also constitute patentable subject matter under 35 USC 101.

And independent claims 30 and 32 also include limitations similar to those discussed above with respect to claim 29. Therefore, like claim 29, claims 30 and 32 also constitute patentable subject matter under 35 USC 101.

Accordingly, reconsideration and withdrawal of the rejections under 35 USC 101 to claims 4-15 and 17-32 is requested.

Obviousness Rejections

Part 6 of the OA entitled "Obviousness Rejection of Claims" was originally unclear to Applicant, as indicated in the response filed on September 8, 2008. However, the Advisory Action (AA) issued on September 24, 2008 clarified that Applicant is required to "specifically address ... the courts concern and decision from *Leapfrog Enters. v. Fisher-Price Inc.* ... that the routine addition of modern electronics to an otherwise unpatentable invention typically creates a prima facia case of obviousness." (AA, p.2, ¶2)

First, Applicant points out that the court in *Leapfrog* did not actually state "that the routine addition of modern electronics to an otherwise unpatentable invention typically creates a prima facia case of obviousness." This statement is believed to be broader than the actual ruling in *Leapfrog*.

With respect to obviousness and the validity of claim 25 of Leapfrog's U.S. Patent 5,813,861 (" '861 Patent"), the CAFC was merely determining whether there was clear error by the District Court in finding that: (1) the mechanical device taught in Bevan's U.S. Patent 3,748,748 provided the same functionality as the claimed electronic device; and (2) one skilled in the art could have used the electronics of the TI Super Speak & Read ("SSR") device with the method of operation taught by Bevan, along with known readers – to render claim 25 obvious. The court concluded there was no clear error in the District Court's findings and upheld the District Court's ruling that claim 25 was obvious, and therefore invalid, given the combination of Bevan, SSR, and "readers" commonly known to those skilled in the art at the time of the invention of claim 25 of the '861 Patent. The court stated:

> We agree ... that the district court correctly concluded that
> the subject matter of claim 25 of the '861 patent would

have been obvious in view of the combination of Bevan, the SSR, and the knowledge of one of ordinary skill in the art.

Therefore, the court ultimately found obviousness based on <u>a combination of references</u> – and did not merely establish a prima facia case of obviousness based on a routine addition of modern electronics to an otherwise unpatentable device. The court never discussed establishing a prima facia case of obviousness. More accurately, in *Leapfrog* the court held that the electronics of SSR <u>combined with</u> the method of operation of Bevan and known readers made claim 25 obvious. That is, the court did not say that it would be obvious to practice the method of operation of Bevan with modern electronics to make claim 25 obvious – absent the SSR device. Rather, the court relied on the teaching of electronics within the same field. i.e., the SSR device, to support an obviousness rejection.

It is not at all clear that the court, or the lower District Court, would have found claim 25 of the '861 Patent obvious, and therefore invalid, without the electronics teaching of the SSR device to combine with the teachings of Bevan.

Nevertheless, Bevan was useful in the obviousness analysis of claim 25 because the court found that Bevan, even though mechanical, taught an apparatus that achieves the *same goals* as those of the apparatus of claim 25 of the '861 Patent. In other areas the court described Bevan as teaching the same "mode of operation." Even if we assume that the court would have found claim 25 obvious based on Bevan, without the electronics of the SSR device, that is not the present case. In *Leapfrog* the court had a specific point of comparison – the mechanical apparatus taught in Bevan. In other words, Bevan was required as an explicit mechanical reference that achieved the same goals (or had the same mode of operation) as the claimed apparatus, so there was a side-by-side comparison of the two apparatuses. With respect to the present application, there has been no mechanical device identified for which the claimed invention would merely be an apparatus using modern electronics to achieve the same goal or mode of operation. No such side-by-side comparison is possible here. Therefore, the facts in *Leapfrog* are

substantially different than those in the present case; issues addressed in *Leapfrog* are not truly analogous to those here.

In short, Applicant believes that absent a mechanical apparatus achieving the same goal or mode of operation, the court in *Leapfrog* would not find obvious the claimed invention in the present application.

It is noted that the Office Action characterized the present claims as representing "in concept a problem statement which is a mathematical algorithm and is of consequence abstract and non statutory under 35 USC 101." But this characterization ignores the other elements of each claim, so Applicant believes it to be incorrect. A *problem statement* is not a mathematical algorithm as indicated in the Office Action. And even if it were, as discussed above, a system implementing a mathematical algorithm is not prima facia obvious and can be patentable so long as the applicant is not trying to patent the algorithm itself, according to *Diehr*. However, in the present case, not only is a problem statement not a mathematical algorithm, but the claims of the present application are not directed to a system or method that merely generates a problem statement. In the claims of the present application, the identification, representation or other processing related to problems and/or problem statements represents portions of the claims only. Basing a rejection merely on one element of a claim, ignoring the others, would be improper.

Additionally, *Leapfrog* never addressed a situation where an algorithm is implemented with modern electronics, so would not be particularly applicable here. If the Office Action is implying that an algorithm can take the place of a mechanical functional equivalent in the court's analysis in *Leapfrog*, that would be an extension of *Leapfrog* tantamount to the USPTO making new law, so would not be appropriate.

In any event, Applicant believes that the claims of the present invention are statutory for reasons discussed above with respect to the Preemption rejections under 35 USC 101. The use of *modern electronics* does not make the present claims obvious under 35 USC 103.

Accordingly, for several reasons, Applicant submits that in the present case a prima facia case of obviousness has not been established and obviousness rejections

under 35 USC 103 to claims 4-15 and 17-32 are not warranted based on *Leapfrog* and should be withdrawn, and such withdrawal is requested.

103 Rejections

Claims 4-15 and 17-32 have been rejected under 35 USC 103(a) as being unpatentable over Pustejovsky at al (US Pat. Pub. 2002/0120651) ("Pustejovsky1"). US Pat. Pub. 2001/0037328 to Pustejovsky ("Pustejovsky2") has also been variously cited.

Applicant's remarks with respect to these references and the prior rejections under 35 USC 102 in its response dated March 17, 2008 apply here and are reasserted.

Applicant takes issue with the statement that "Tech Optimizer, User Guide, by Invention Machine, Version 4.0 © 1995-2002 is an alternative prior art to that of Pustejovsky and will be used when and if the prior art of Pustejovsky no longer reads on the instant invention." (see *OA*, p. 4, Part 8) It would seem inappropriate to forecast a prior art rejection of all claims without the benefit of specifically written claims to consider, since the claims could be further amended during prosecution as was done in this response.

It should also be noted, that while Tech Optimizer, which is Applicant's product, represents a type of problem analysis tool as it existed at the time of filing the present application, Tech Optimizer was not augmented as described in paragraphs 0007 and 0014 of the present application, and has more particularly described with reference to the "two elements" referred to in paragraph 0016 and introduced in paragraphs 0017 and 0019 of the present application (as published). These augmentative elements are represented in the claims. Therefore, Tech Optimizer would not have made obvious the claims of the present application at the time of filing.

Claims 29, 28 and 32

The Office Action indicated that independent claims 29 and 32 were taught by Pustejovsky1 (Abstract, para. 0018, and FIG. 1) and Pustejovsky2 (Abstract, FIG. 1). As indicated above, Applicant has amended claims 29 and 32 to change "system model" to "electronic model of a system or process," for clarification.

Additionally, as a general matter, Applicant notes that these rejections do not cite specific entities within these references that make specific steps of claims 29 and 32 obvious, and this makes it extremely difficult, if not impossible, for Applicant to form a response. Nevertheless, as discussed below, Applicant believes amended claims 29 and 32 are clearly distinguished over Pustejovsky1 and Pustejovsky2, whether taken alone or in combination.

With regard to independent claim 29, in Applicant's response dated March 17, 2008 Applicant provided explanation distinguishing claim 29 over Pustejovsky1. Those remarks equally apply here, and are reasserted. For instance, Pustejovsky1 does not teach analyzing an "electronic model" as in amended claim 29 in its para. 0018. Pustejovsky1's para. 0018 is reproduced below:

> [0018] This invention generally relates to the field of information management. More particularly, the present invention provides a method and system for natural language processing of information in an electronic book. Merely by way of example, the invention has been applied to an electronic book. It would be recognized that the invention can also be applied to other sources of text information such as electronic file folders, and the like.

Pustejovsky1's electronic book is not an "electronic model of a system or process, wherein the electronic model includes components of the system or process and relationships between the components" as in amended claim 29. (See, e.g., Present Application, para. 0019)

There is no discussion here of "analyzing the components and the relationships between the components of the electronic model, including identifying a problem to be solved" or "generating a machine representation of the problem," as in claim 29. (See, e.g., Present Application, paras. 0007 and 0014)

Similarly, Pustejovsky2 does not teach "reformulating the machine representation into a natural language or Boolean query" in its Abstract. (See, e.g., Present Application, para. 0007) Pustejovsky2's Abstract is reproduced below:

> A query is received via a computer user interface. The query
> is processed to identify the semantic content contained in the
> query. An information store is accessed to obtain related
> categories of information based on the semantic content of
> the query. The information is presented over the computer
> user interface, thereby providing the user with context
> relevant information. The invention increases navigability of
> a large information store by eliminating the indiscriminate
> display of all information relating to the keywords identified
> in the query.

There is no discussion here of "reformulating the machine representation of the problem statement into a natural language or Boolean query," as in claim 29.

Similarly, Pustejovsky2 does not teach "automatically submitting the query to at least one knowledge base having solutions stored therein; and returning a set of solution suggestions responsive to the query from the at least one knowledge base" in its Abstract and FIG. 1. (See, e.g., Present Application, paras. 0014 and 0019) The Office Action states that "it would have been obvious ... to interpret a Boolean query as being an ordinary implementation of a computer process since computer processes are made up of Boolean statements ... just the way a computer operates." However, this analysis is silent with respect to the above portions of claim 29.

Therefore, for various reasons the Applicant believes that the cited portions of Pustejovsky1 and Pustejovsky2, whether taken alone or in combination, do not make amended claim 29 obvious. Allowance of claim 29 is requested.

Claim 28 depends from independent claim 29, and adds "presenting the set of solution suggestions via an output device." For reasons put forth with respect to claim 29, claim 28 is also not made obvious by Pustejovsky2 (FIG. 1). Allowance of claim 28 is requested.

With regard to independent claim 32, which was rejected on the same grounds as claim 29, claim 32 has been similarly amended. Therefore, for reasons put forth above with respect to claim 29, the Applicant believes that the cited portions of Pustejovsky1

and Pustejovsky2, whether taken alone or in combination, do not make claim 32 obvious.
Allowance of claim 32 is requested.

Claims 30, 31

With respect to claim 30, which is an independent <u>system</u> claim, the "Response to Arguments" section of the OA, page 11, indicated the following:

> The claim steps of claim 30 are limited by the term "configured to" which is not a positive imitation and does not require that the subsequent limitations are implemented.

Since this is a <u>system</u> claim, there are no "steps" indicated in claim 30, so it seems that the OA comment is misdirected. Also, on one hand the OA statement says claim 30 is "limited by the term 'configured to,'" yet on the other hand says OA also says this not "a positive limitation." Applicant disagrees with the assertion made in the OA.

The same assertion was made on page 12 of the OA with respect to independent system claim 31, and Applicant's response is the same as that provided above for claim 30.

Nevertheless, Applicant has amended claims 30 and 31, without prejudice, to eliminate the phrase "configured to." Also, as indicated above, Applicant has amended claims 30, 31 to change "system model" to "electronic model of a system or process," for clarification.

Also, the Office Action indicated that independent claims 30, 31 were taught by portions of Pustejovsky1 and Pustejovsky2 (FIG. 1). As a general matter, Applicant notes that these rejections do not cite specific entities within these references that make specific claim elements obvious, and this makes it extremely difficult, if not impossible, for Applicant to form a response.

Pustejovsky2's oft cited FIG. 1 is as follows:
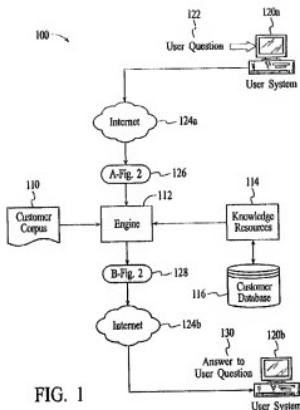
FIG. 1

Amended claim 30 now reads:

30. A system for obtaining solution suggestions for problems, said system comprising:

at least one processor and at least one storage medium including an electronic model of a system or process, wherein the electronic model includes components of the system or process and relationships between the components;

a problem analysis tool that analyzes the components and the relationships between the components of the electronic model to identify a problem to be solved and generates a machine representation of the problem;

a query formatter that reformulates the machine representation into a natural language or Boolean query and automatically submits the query to at least one knowledge base; and

the at least one knowledge base comprising:

at least one database comprising problem solutions; and

a knowledge search tool that automatically returns a set of solution suggestions responsive to the query from the at least one database.

Regarding amended independent claim 30, Pustejovsky2's FIG. 1 does not teach "a problem analysis tool" as augmented by the present invention and claimed. To do so, Pustejovsky2's FIG. 1 would have to teach a problem analysis tool "that analyzes the components and the relationships between the components of the electronic model to identify a problem to be solved" - Pustejovsky2's FIG. 1 above does not teach this. Pustejovsky2's FIG. 1 does not address problem <u>identification</u> at all. And the problem analysis tool would have to generate "a machine representation of the problem." Clearly, Pustejovsky2 does not teach such a problem analysis tool in its FIG. 1, and no particular element of Pustejovsky2's FIG. 1 has been explicitly cited as teaching the foregoing. Therefore, the Applicant believes the problem analysis tool augmentation of amended claim 31 is not made obvious by Pustejovsky1 and Pustejovsky2, whether alone or in combination.

Additionally, Pustejovsky2's FIG. 1 does not teach "a query formatter that reformulates the machine representation into a natural language or Boolean query and automatically submits the query to at least one knowledge base." No explicit portion of Pustejovsky2's FIG. 1 has been cited as teaching this element of this claim.

Additionally, Pustejovsky2's FIG. 1 does not teach "at least one knowledge base comprising: at least one database comprising problem solutions; and a knowledge search tool that automatically returns a set of solution suggestions responsive to the query from the at least one database." No explicit portion of Pustejovsky2's FIG. 1 has been cited as teaching this element of this claim.

Applicant again notes that it is difficult, if not impossible, to form a proper response with such lack of specificity of which elements of the references teach each element of claim 30, and how. Nevertheless, as indicated above, claim 30 is clearly distinguished of the cited references.

For various reasons the Applicant believes that the cited portions of Pustejovsky1 and Pustejovsky2, whether taken alone or in combination, do not make amended claim 30 obvious. Allowance of claim 30 is requested.

Claim 31 was rejected based on the same grounds as claim 30. Claim 31 has been similarly amended. Therefore, for reasons put forth above with respect to claim 30, the Applicant believes that the cited portions of Pustejovsky1 and Pustejovsky2, whether taken alone or in combination, do not make claim 31 obvious. Allowance of claim 31 is requested.

Claims 4, 5, 11, 12, 13, 14

The Examiner interpreted the phrase "configured to" as being of the family of "adapted to" so applied MPEP 2111.04. More particularly, the Examiner has interpreted the term "configured to" to mean "nothing more than a 'view of' and subsequent following statements are of no consequence." The Applicant disagrees with this interpretation. The Applicant contends that in each claim, the text following the "configured to" phrase adds further limitations and, in fact, provides claim differentiation over the respective claims from which claims 4, 5, 11, 12, 13, and 14 depend. In that regard, the text following the phrase "configured to" in each of claims 4, 5, 11, 12, 13, and 14 is material to patentability.

Nevertheless, Applicant has amended claims 4, 5, 11, 12, 13, and 14, without prejudice, to eliminate the phrase "configured to." No other rejections are offered against claims 4, 5, 11, 12, 13, and 14.

Additionally, claims 4, 5, 11, 12, 13, and 14 each directly or indirectly depends from claim 31 discussed above, and are similarly not made obvious by Pustejovsky2, or Pustejovsky1, whether taken alone or in combination.

Therefore, for several reasons, withdrawal of these rejections is requested.

Claims 6, 18; 7, 19; 8, 20; 9, 21; 10, 22; 23; 12, 24; 15, 27

The rejections put forth in the OA are substantially similar to those put forth in the prior OA of Nov. 19, 2007, so Applicant's remarks in its response of March 17, 2008 equally apply here and are reasserted. In the "Response to Arguments" section of the OA, an Examiner's Response was not explicitly given with respect to claims 6, 18; 7, 19; 8, 20; 9, 21; 10, 22; 23; 12, 24; and 15, 27.

Additionally, each of the above claims directly or indirectly depends from independent claim 31 or 32 discussed above, and should inherit the patentability of its respective independent claims.

Claim 17

Claim 17 has been amended for clarification. Claim 17 depends from independent claim 32, and adds "wherein reformulating the machine representation into a natural language or Boolean query includes translating functional relationships in the machine representation into semantic relationships."

The OA cited Pustejovsky2 Abstract and FIG. 1 as making obvious claim 17. While Pustejovsky2 does indicate processing a _received query_ to identify semantic content, claim 17 requires significantly more than the foregoing. For instance, Pustejovsky2 does not at all disclose a "machine representation of a problem." Therefore, Pustejovsky2 does not teach or make obvious translating functional relationships in the machine representation of the problem statement in semantic relationships, as required by this claim.

Additionally, claim 17 depends from claim 32 and should inherit the patentability thereof.

Claim 25

Claim 25, which is similar to claim 13 discussed above, depends from independent claim 32, and adds that "identifying the problem to be solved includes determining functional relationships between key components of the electronic model; and reformulating the machine representation into the natural language query includes translating the functional relationships into the natural language query." The OA cited Pustejovsky1 Abstract and FIG. 1 and Pustejovsky2 Abstract and FIG. 1 as making obvious claim 25.

In particular, the OA indicated that "identifying semantic content" in Pustejovsky2 (Abstract and FIG. 1) teaches "identifying the problem to be solved includes analyzing functional relationships between key elements of the function model."

However, since these portions of Pustejovsky2 do not disclose an electronic model of a system or process or identifying a problem to be solved, Pustejovsky2 does not make obvious this portion of claim 25. Additionally, one skilled in the art would not find "identifying semantic content" as being analogous to a method step wherein "identifying the problem to be solved includes determining functional relationships between key components of the electronic model," as in amended claim 25.

Additionally, the OA indicated that "selecting a term on the electronic page for which a query is to be performed" in Pustejovsky1 (Abstract and FIG. 1) teaches "reformulating the machine representation of the problem statement into the natural language query includes translating the functional relationships into the natural language query." However, selecting a term on an electronic page is not nearly the same as a method wherein "reformulating the machine representation into the natural language query includes <u>translating the functional relationships into the natural language query</u>." Pustejovsky1 does not reformulate a machine representation of a problem. Pustejovsky1 does not translate functional relationships of a machine representation into a natural language query, selecting a term on an electronic page has nothing to do with functional relationships. There are many reasons why Pustejovsky1 does not make obvious claim 25.

Additionally, one skilled in the art would not find "selecting a term on the electronic page for which a query is to be performed" as being analogous to a method wherein "reformulating the machine representation into the natural language query includes translating the functional relationships into the natural language query," as in claim 25.

Therefore, Pustejovsky1 and Pustejovsky2, whether alone or in combination, do not make obvious claim 25. Additionally, claim 25 depends from claim 32 and should inherit the patentability thereof.

Claim 26

Claim 26, which is similar to claim 14 discussed above, depends from independent claim 32, and has been amended herein. Support for the amendment to these

claims can be found, for example, in the present application at page 8, para. 2 and FIG. 7. In particular, claim 26 adds that "identifying the problem to be solved includes performing a root cause analysis of the electronic model to generate a directed graph having one or more nodes, wherein each node represents a problem statement and has a node edge that represents a cause-effect relationship; and reformulating the machine representation into the natural language query includes translating the nodes into the natural language query." The OA cited Pustejovsky1 and Pustejovsky2 as making obvious claim 26.

In particular, the OA indicated that "root cause analysis using stem is synonymous with the function of applicant's node," citing Pustejovsky1 (para. 0030 and FIG. 2) and Pustejovsky2 (paras. 0029, 0030), teaches "identifying the problem to be solved includes performing a root cause analysis of the function model that establishes one or more nodes." Pustejovsky1 para. 0030 is reproduced below:

> [0030] According to the present invention, a technique including a method and device for operating an electronic book is provided. More particularly, the present invention provides a method and system for natural language processing of information in an electronic book.

Applicant sees no teaching in this text of "identifying the problem to be solved includes performing a root cause analysis of the electronic model to generate a directed graph having one or more nodes, wherein each node represents a problem statement and has a node edge that represents a cause-effect relationship" as in amended claim 26, nor does FIG. 2 of the same reference appear to add anything relevant. Regarding the cited portions of Pustejovsky2, which disclose functions of an interpreter 220, the interpreter 220 appears to perform syntactic and semantic processing, including processing of a word stem from a stemmer 214, which "uses a stem dictionary, which is a master list of stems." (Pustejovsky2, para. 0028).

A list typically is not interpreted by those skilled in the art as having nodes, as in claim 26, nor does Pustejovsky2 indicate that its master list of stems has nodes. Additionally, the semantic and syntactic processing in the cited portion of Pustejovsky2 does not disclose "root cause analysis." Therefore, Applicant suggests that the cited

portions of Pustejovsky1 and Pustejovsky2 do not make obvious "identifying the problem to be solved includes performing a root cause analysis of the electronic model to generate a directed graph having one or more nodes, wherein each node represents a problem statement and has a node edge that represents a cause-effect relationship," as in claim 26. In fact, the OA never explicitly described how Pustejovsky1 and Pustejovsky2 teach these aspects of claim 26.

Additionally, the OA similarly indicated with regard to the second element of claim 26, "reformulating the machine representation of the problem statement into the natural language query includes translating the nodes into the natural language query," that Pustejovsky1 (para. 0030 and FIG. 2) and Pustejovsky2 (paras. 0029, 0030) teach "root cause analysis using stem is synonymous with the function of applicant's nodes," making obvious this element of claim 26. However, as indicated above, the cited portions of Pustejovsky1 and Pustejovsky2 do not teach root cause analysis nor does the stem list of Pustejovsky2 include nodes. More to the point, these sections of Pustejovsky1 and Pustejovsky2 do not teach "reformulating the machine representation into the natural language query," nor do they teach "translating the nodes into the natural language query." In fact, the OA never described how Pustejovsky1 and Pustejovsky2 teach these aspects of claim 26.

Therefore, Pustejovsky1 and Pustejovsky2, whether alone or in combination, do not make obvious claim 26. Additionally, claim 26 depends from claim 32 and should inherit the patentability thereof.

Closing Remarks

For various reasons independent claim 29 and its dependent claim 28; independent claim 30; independent claim 31 and its dependent claims 4-15; and independent claim 32 and its dependent claims 17-27 are not made obvious in view of Pustejovsky1 and Pustejovsky2, whether taken alone or in combination. Allowance of these claims is requested.

It is submitted that all claims are in condition for allowance, and such allowance is respectfully requested. If prosecution of the application can be expedited by a

telephone conference, the Examiner is invited to call the undersigned at the number given below. Given than extended prosecution of this application to date, Applicant particularly requests a telephone interview should this response not resolve all rejections and result in a Notice of Allowance.

In connection with this matter, please charge any otherwise unpaid fees which may be due or credit any overpayment to Deposit Account No. 501798.

Respectfully submitted,

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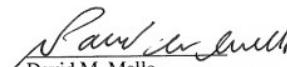
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